

REMARKS

The Examiner objected to claim 49 because of insufficient antecedent basis. In response, Applicants have amended claim 49 to provide proper antecedent basis.

Applicants gratefully acknowledge the Examiner's indication of allowable subject matter.

The Examiner rejected claims 23-25 and 48 under 35 U.S.C. §102(b) as being unpatentable over Jerome (US 5,565,370).

The Examiner rejected claims 23-25, 40-45, and 47-49 under 35 U.S.C. §102(b) as being unpatentable over Ueno et al. (US 4,875,085).

The Examiner rejected claims 35-37 under 35 U.S.C. §102(b) as being unpatentable over Niitsu. (US 5,137,839) with Takemura (US 5,587,326) used to establish inherency for claim 36. Applicants believe this basis of rejection is moot in light of Applicants cancellation of claims 35-37.

The Examiner rejected claim 38 under 35 U.S.C. 103(a) as being unpatentable over Niitsu in view of Candelaria (US 5,360,986) and Grider et al. (US 6,030,874).

Applicants believe this basis of rejection is moot in light of Applicants cancellation of claim 38.

The Examiner rejected claim 39 under 35 U.S.C. 103(a) as being unpatentable over Niitsu in view of Morishita (US 5,708,281). Applicants believe this basis of rejection is moot in light of Applicants cancellation of claim 39.

The Examiner rejected claim 46 35 U.S.C. 103(a) as being unpatentable over Ueno et al. (US 4,875,085) in view of Morishita (US 5,708,281).

The Examiner rejected claim 47 under 35 U.S.C. §103(a) as being unpatentable over Jerome (US 5,565,370).

Applicants respectfully traverse the §102(b) and §103(a) rejections with the following arguments.

35 USC § 102

Applicants contend that claim 25, as amended, is not anticipated by Jerome et al. or Ueno et al. because Jerome et al. or Ueno et al. does not teach each and every feature of claim 25. As a first example Jerome et al. or Ueno et al. does not teach “a single-crystal intrinsic base comprising a doped silicon-germanium layer between an undoped silicon-germanium layer and an undoped silicon layer;” Applicants respectfully point out neither Jerome et al. or Ueno et al. teach a multi-layer base or a base including germanium.

As a second example, Jerome et al. or Ueno et al. does not teach or suggest “a single-crystal pedestal collector within said single-crystal collector and in direct physical contact with a bottom surface of said undoped silicon-germanium layer.” Applicants respectfully point out that neither Jerome et al. or Ueno et al. teach “a single-crystal pedestal collector” as Applicants claim 25 requires.

Based on the preceding arguments, Applicants respectfully maintain that claim 25 is not unpatentable over Jerome et al. or Ueno et al. and is in condition for allowance. Since claims 23, 24, 47, 48 and 50-60 depend from claim 25, Applicants respectfully maintain that claims 23, 24, 47, 48 and 50-60 are likewise in condition for allowance.

Applicants contend that claim 40, as amended, is not anticipated by Ueno et al. because Ueno et al. does not teach each and every feature of claim 40. For example Ueno et al. does not teach “a poly-crystalline silicon emitter layer in direct contact with a top surface of said emitter region, said emitter layer containing an arsenic **and** an antimony species” Applicants respectfully point out that Ueno in col. 3 line 64 to col. 4, line 5 states “ The arsenic ions are doped into the first polysilicon film through opening 17 by an ion-implantation method ...It is possible to use

antimony ions **instead of** the arsenic ions since antimony has a diffusion coefficient and atomic radius similar to those of arsenic...” Clearly, Oeno is teaching an arsenic species or an antimony species not “and arsenic species and an antimony species” as Applicants claim 40, requires.

Based on the preceding arguments, Applicants respectfully maintain that claim 40 is not unpatentable over Ueno et al. and is in condition for allowance. Since claims 42-46 and 49 depend from claim 40, Applicants respectfully maintain that claims 42-46 and 49 are likewise in condition for allowance.

35 USC § 103 Rejections

As to claim 47, Applicants have argued *supra* in response to the Examiners § 102(b) rejection of claim 25 that claim 25 is allowable, since claim 47 depends from claim 25, Applicants respectfully maintain that claim 47 is not unpatentable over Jerome et al. and is in condition for allowance.

As to claim 46, Applicants have argued *supra* in response to the Examiners § 102(b) rejection of claim 40 that claim 40 is allowable, since claim 46 depends from claim 40, Applicants respectfully maintain that claim 46 is not unpatentable over Ueno et al. in view of Morishita and is in condition for allowance.

CONCLUSION

Based on the preceding arguments, Applicants respectfully believe that all pending claims and the entire application meet the acceptance criteria for allowance and therefore request favorable action. If Examiner believes that anything further would be helpful to place the application in better condition for allowance, Applicants invite the Examiner to contact the Applicants' representative at the telephone number listed below. The Director is hereby authorized to charge and/or credit Deposit Account 09-0456.

Respectfully submitted,
FOR: Geiss et al.

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